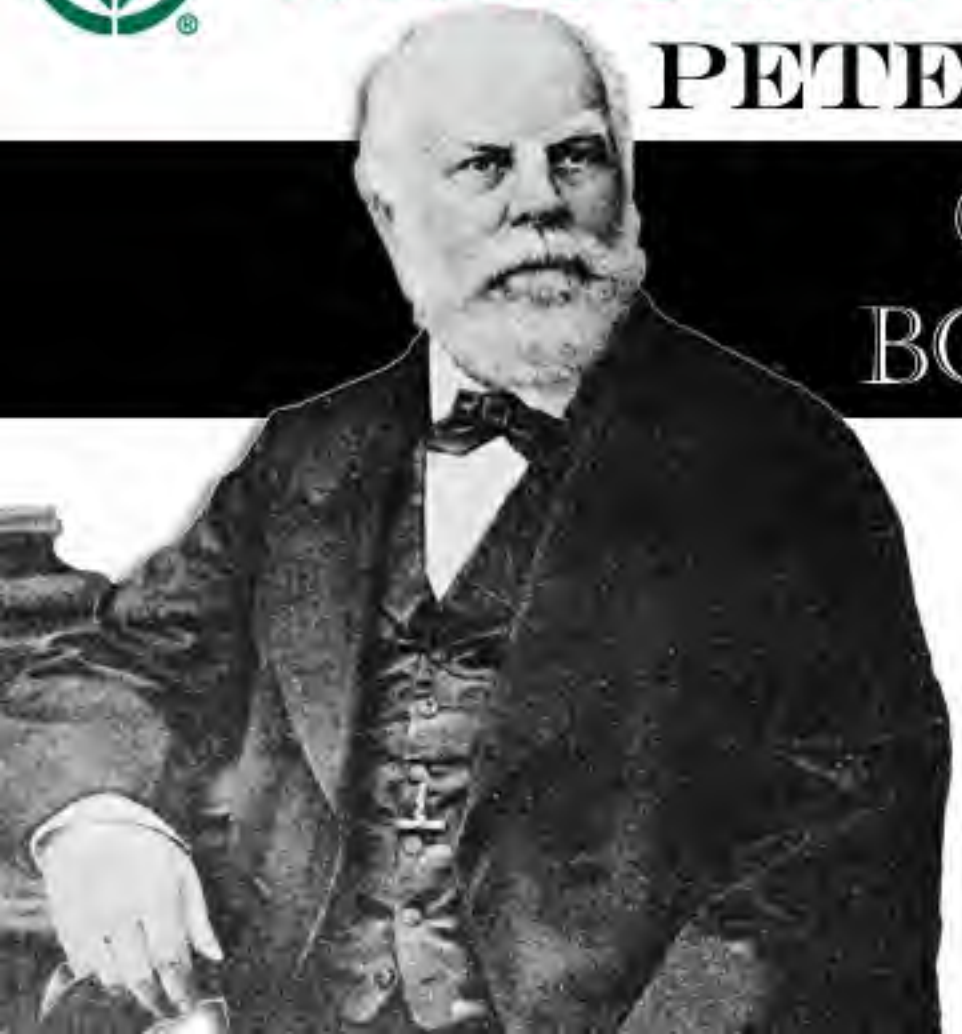
Missouri Botanical Garden
Peter H. Raven Library

George Engelmann Botanical Notebooks



Pagination Note:
Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

A. mirantum

N.y. Tock

March 21 1872

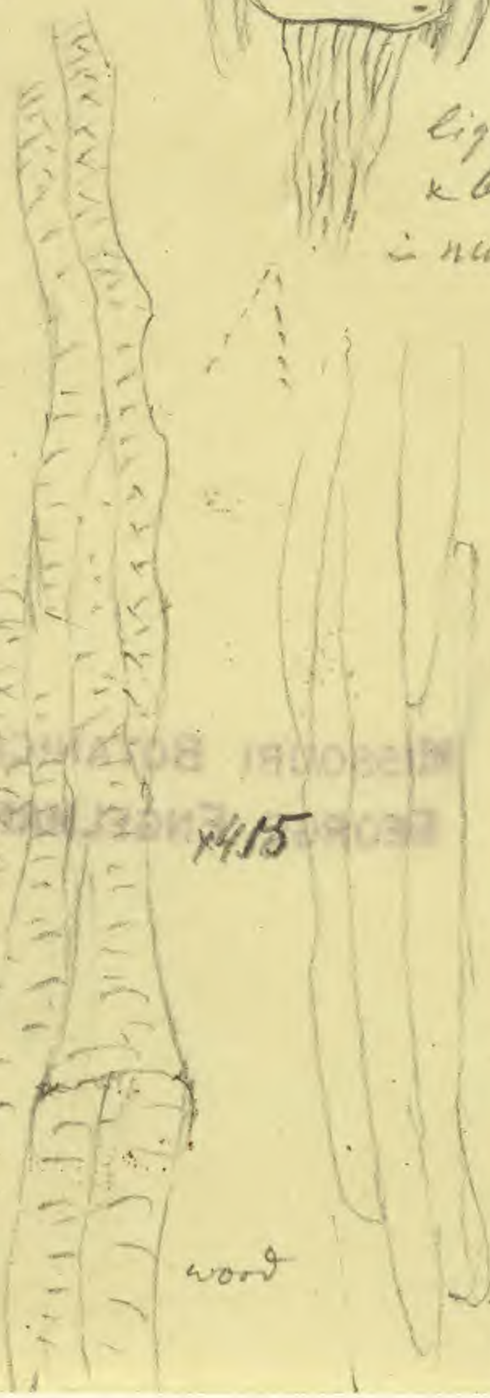
boiled in potash

×10

sepal

anther

ligneous
& bast vessels
in numerous bundles, distinct after boiling in potash



×415

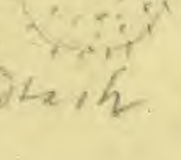
× 280

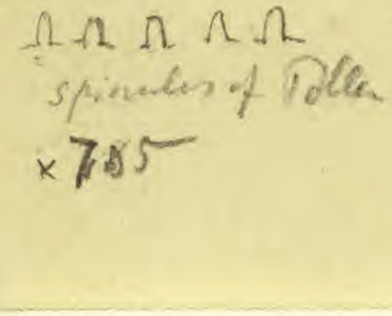
epidermal cells of sepal

stomata seen round two sides

Pollen ×415

after boiling in potash





spinules of Pollen
×785

bast

wood

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cm
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Leitch & Corlies
WHOLESALE DRUGGISTS
South West Corner Fifth and Market Streets.

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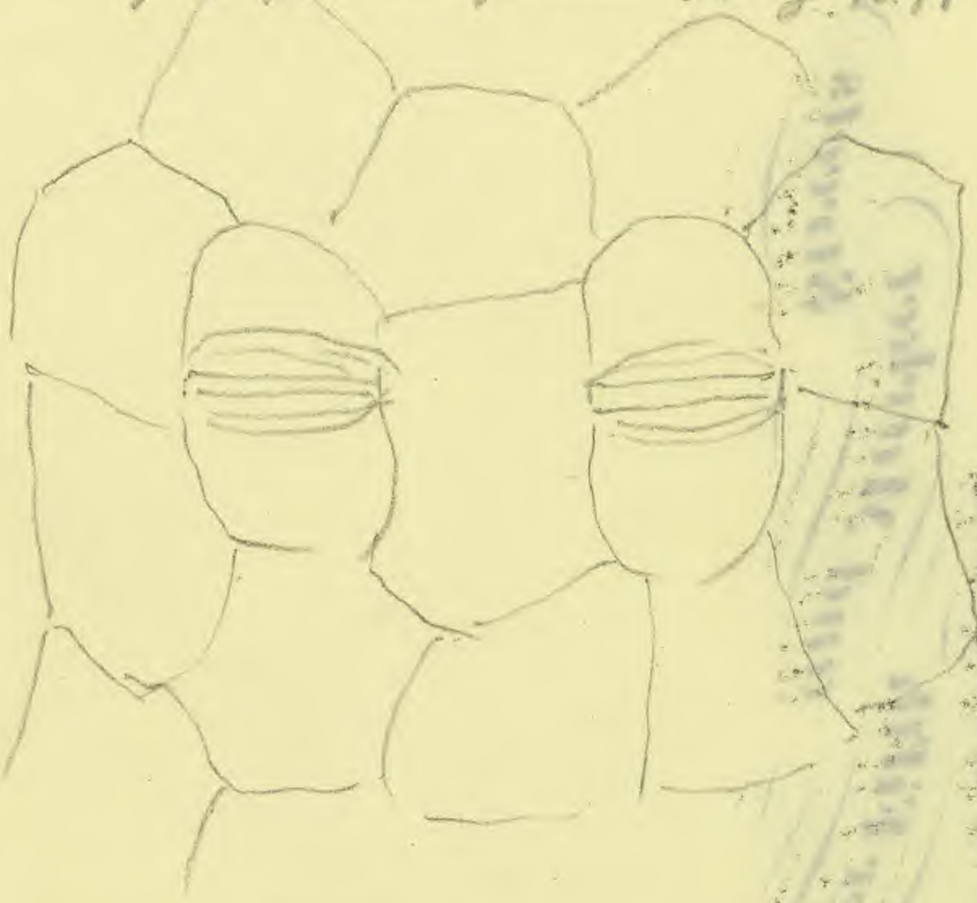
Epiderm's × 280

A. mianthum
Peck.

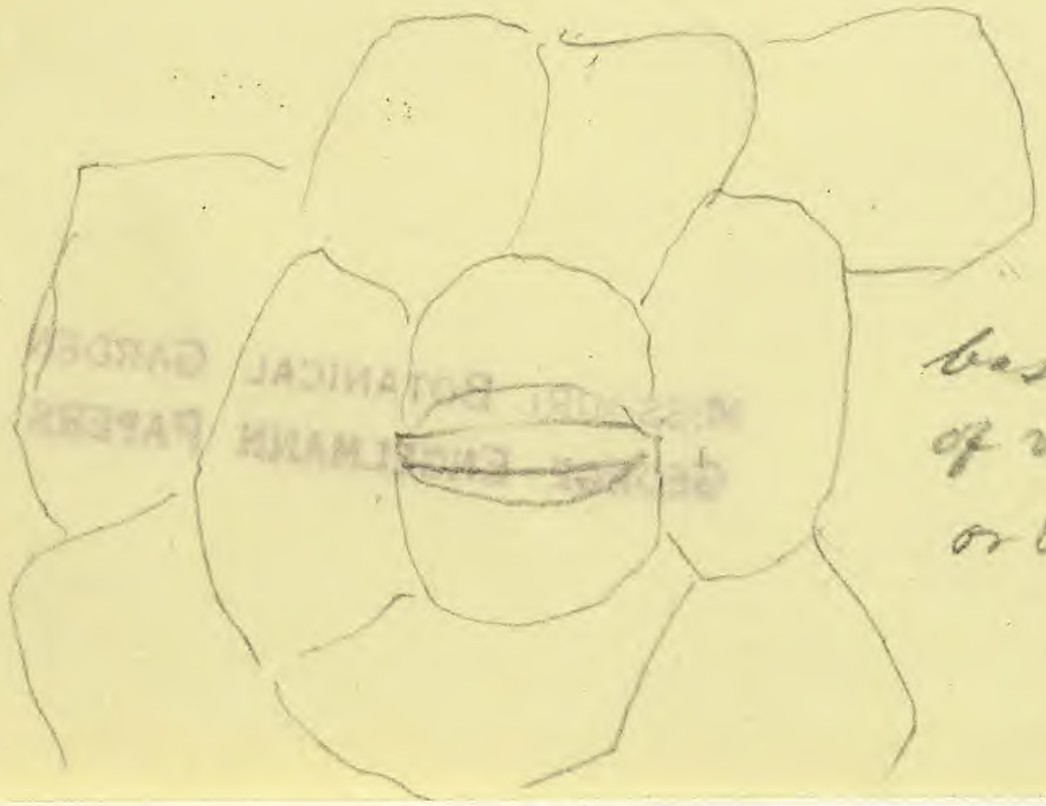
March 24 1872

yg female plant Aug. 1871

Case of joint



middle of joint



base of vagina or leaf.

stomata on all parts but more on upper edge of vagina

wood same as other

×4

joint with stomata

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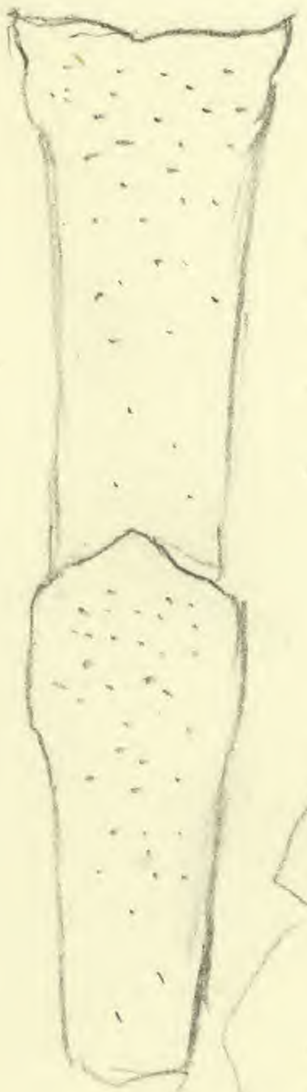
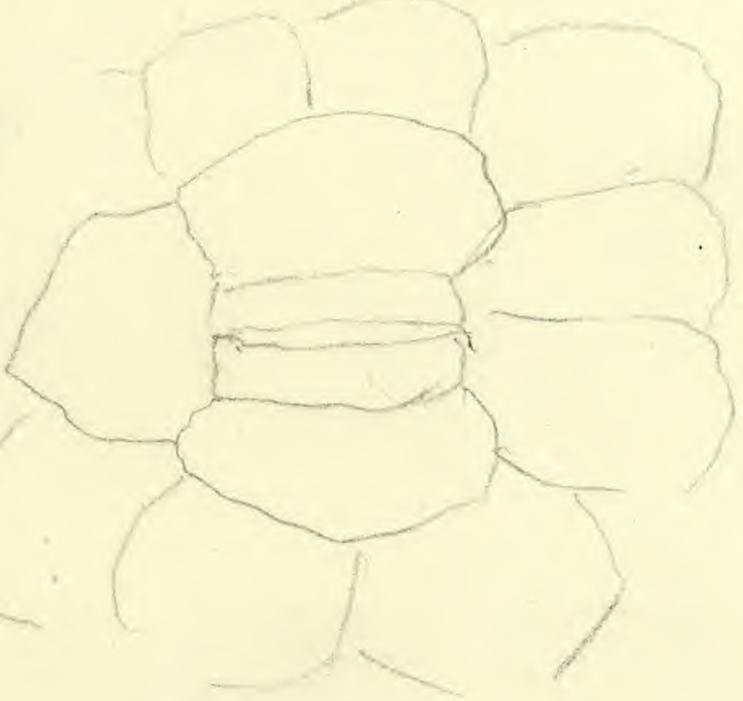
A. minutum

April 5 1872

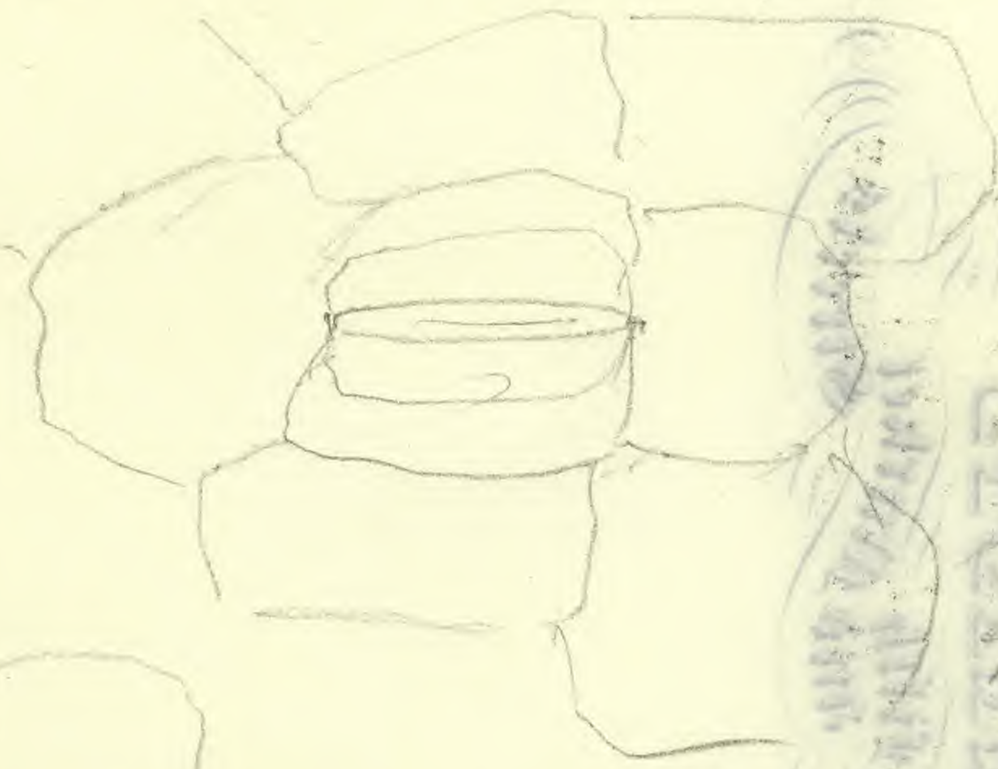
× 10



stomata all over
the Commissure,
more sparsely
all over stem

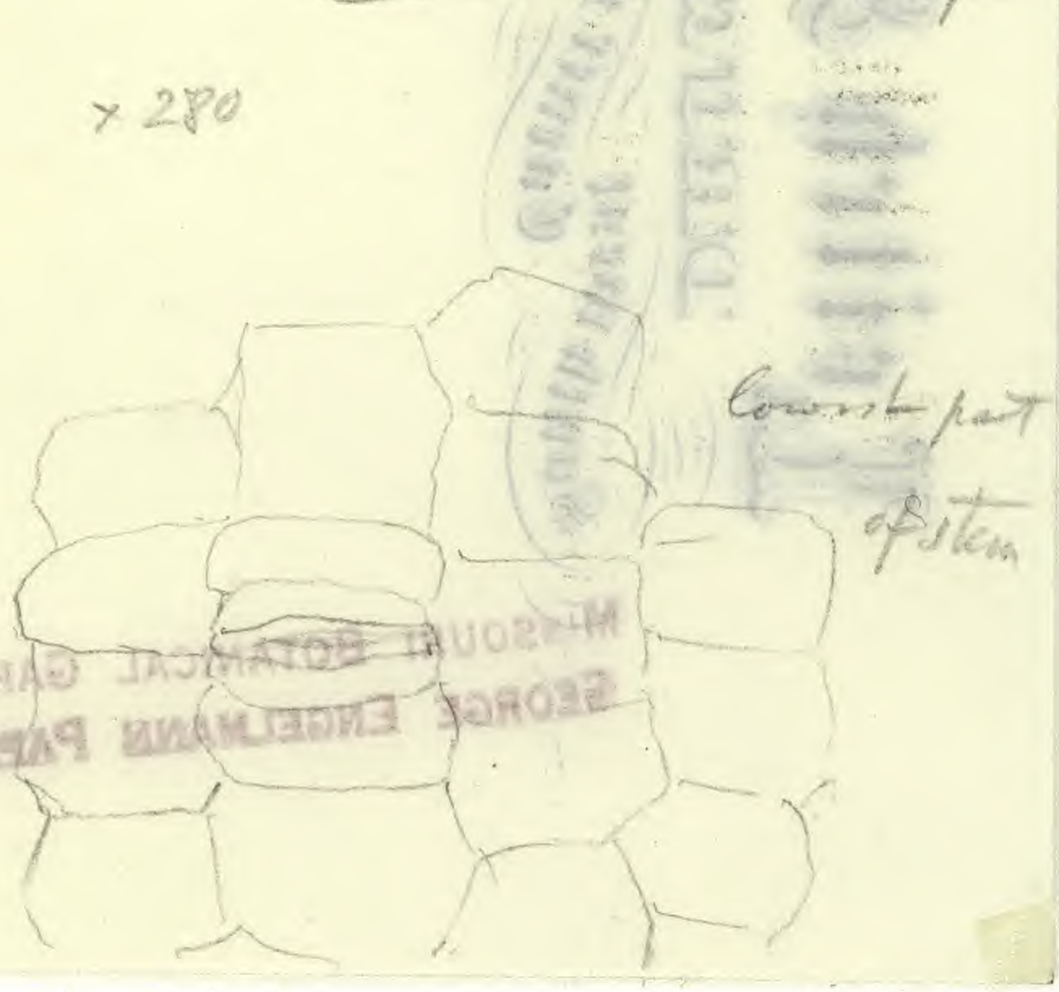


middle part
of stem



× 280

epidermis
of leaf



Lower part
of stem

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Smith & Carlies
DRUGGISTS
Southwest Fifth & Olivet Streets

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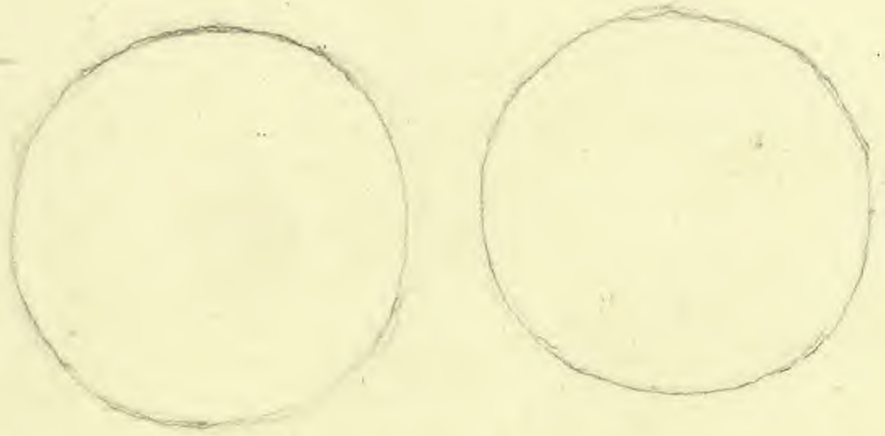
Stromanthe micrantha
Parry Cy May 16

June 8 1872

×280

Spores (of fungi?)
fig 2 = the rocket joint of Picea
which bears the flowers from which

×415



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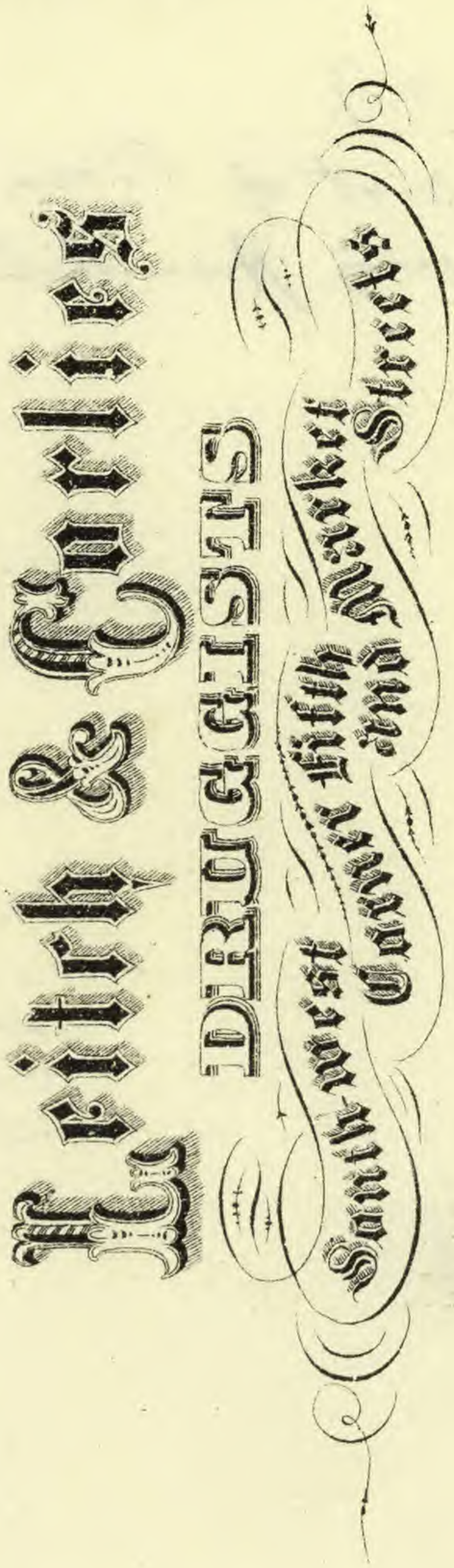

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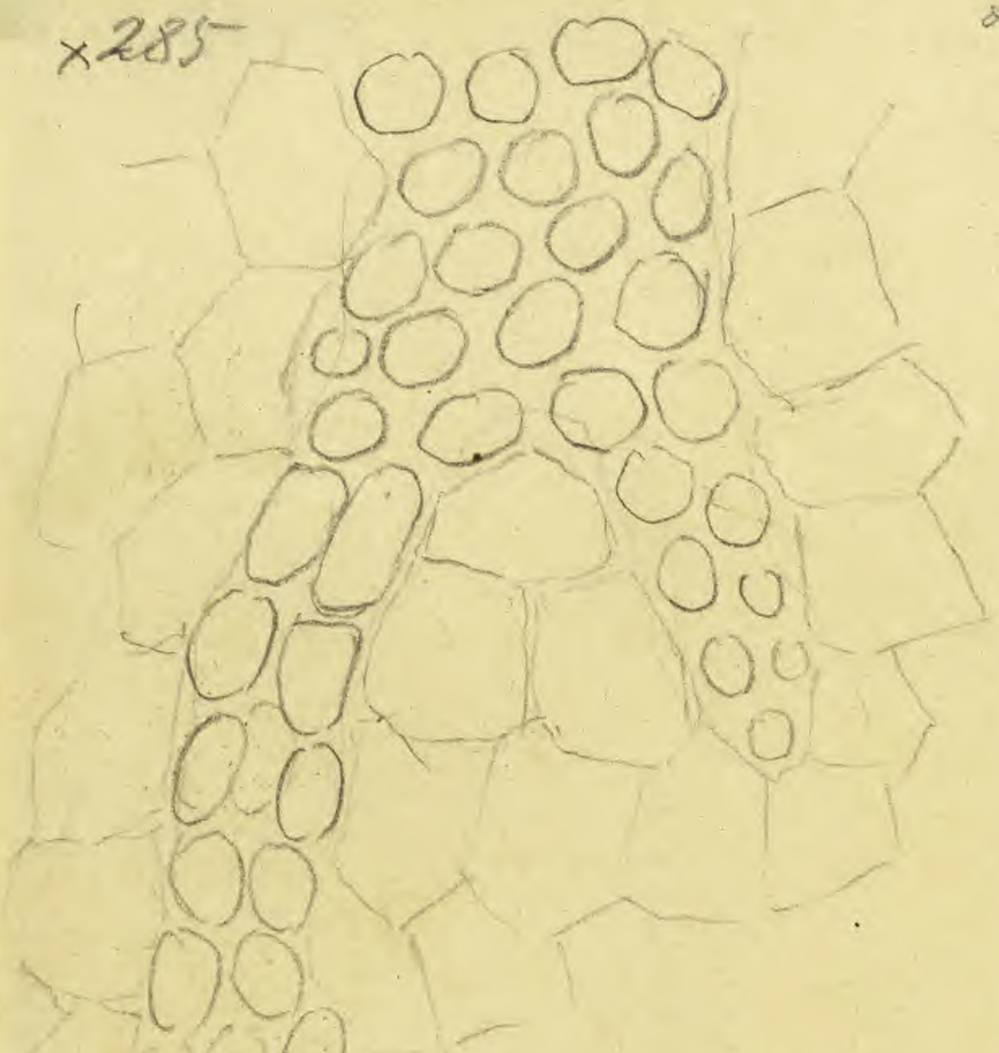
A. pusillum July 18 1872

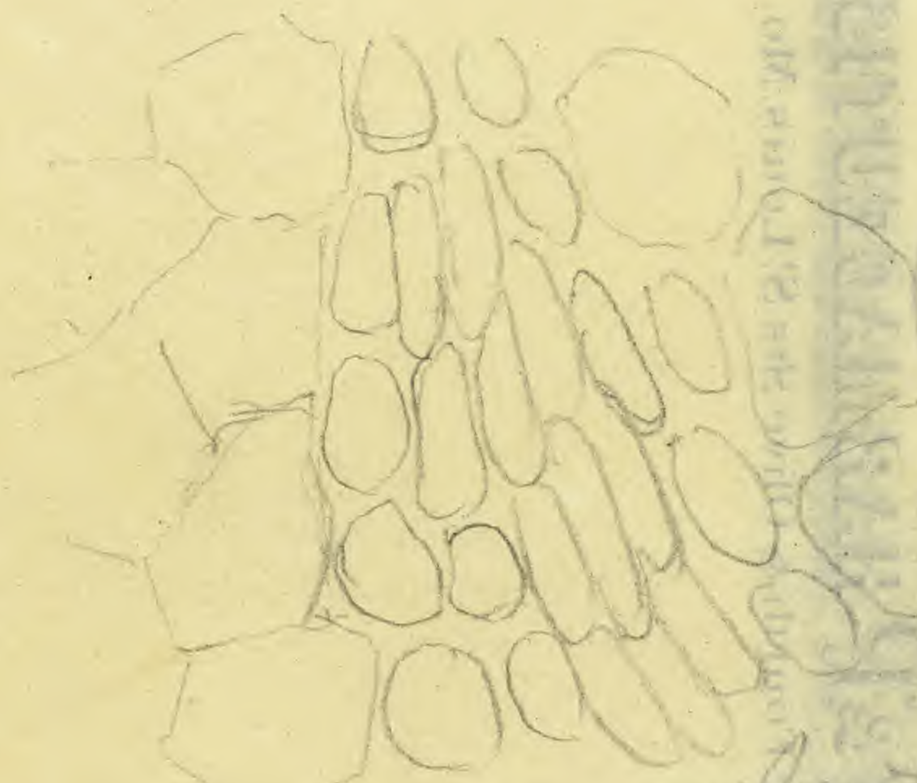
×285

longitudinal section of bundle of Abies

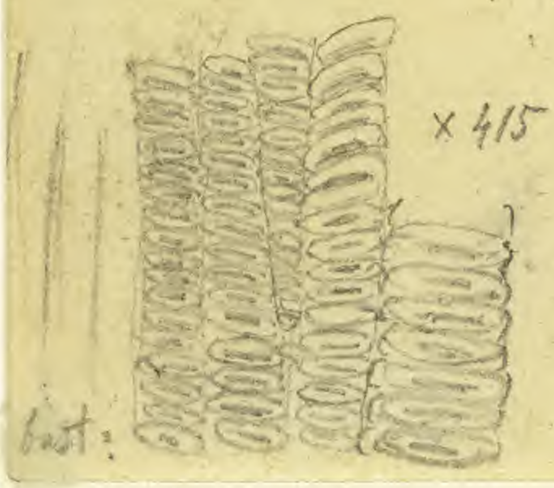


string of tracheids with something like a central bundle

central vessels in such a bundle of cells seen July 26



×285



×415

bast

wood

×285

large

bast?

seen in a very young bundle

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allex 415 — Arenthobium pusillum Peck — July 15th 1872

Mrs Millington July 6th

Arenthobium cells squeezed hard surrounded by large bark cells

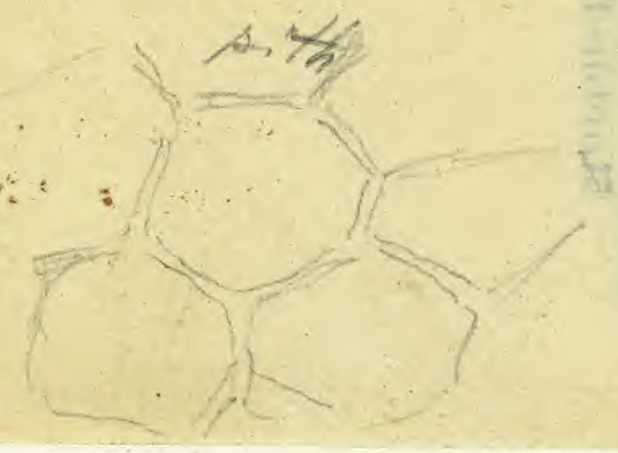
bundles of Arenthobium cells surrounded by very large bark cells

Inner bark cells

Bast

Wood

Healthy Branch
Cross section.



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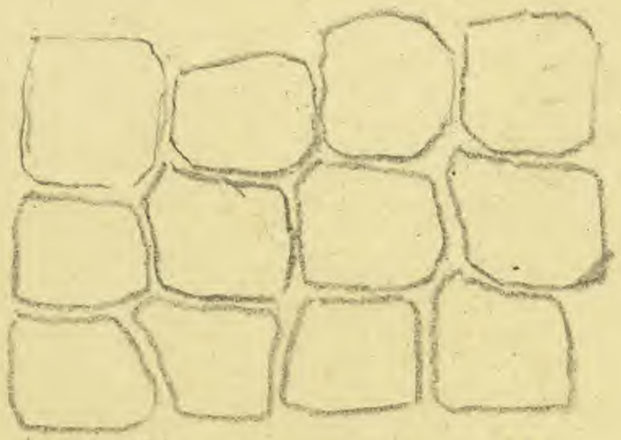
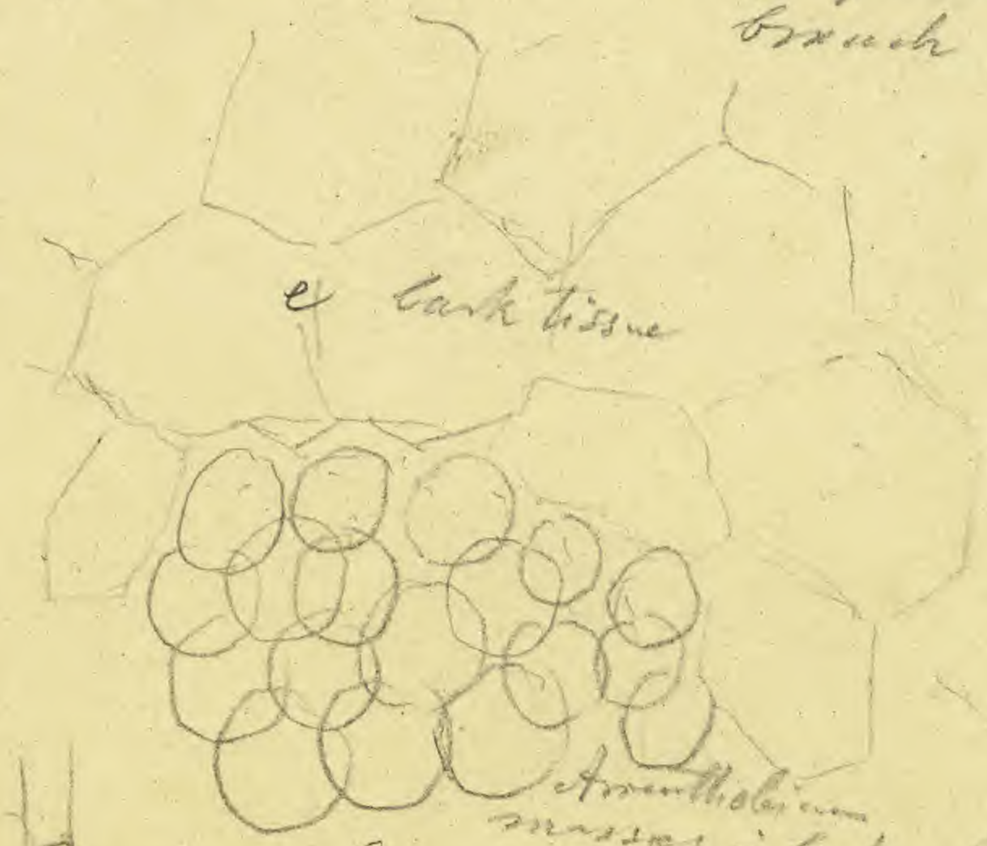
all figures
X 285

Arrenth-pergillen and sect. of Spruce July 18 1872

branch



Arrenthelium upper part K
in air



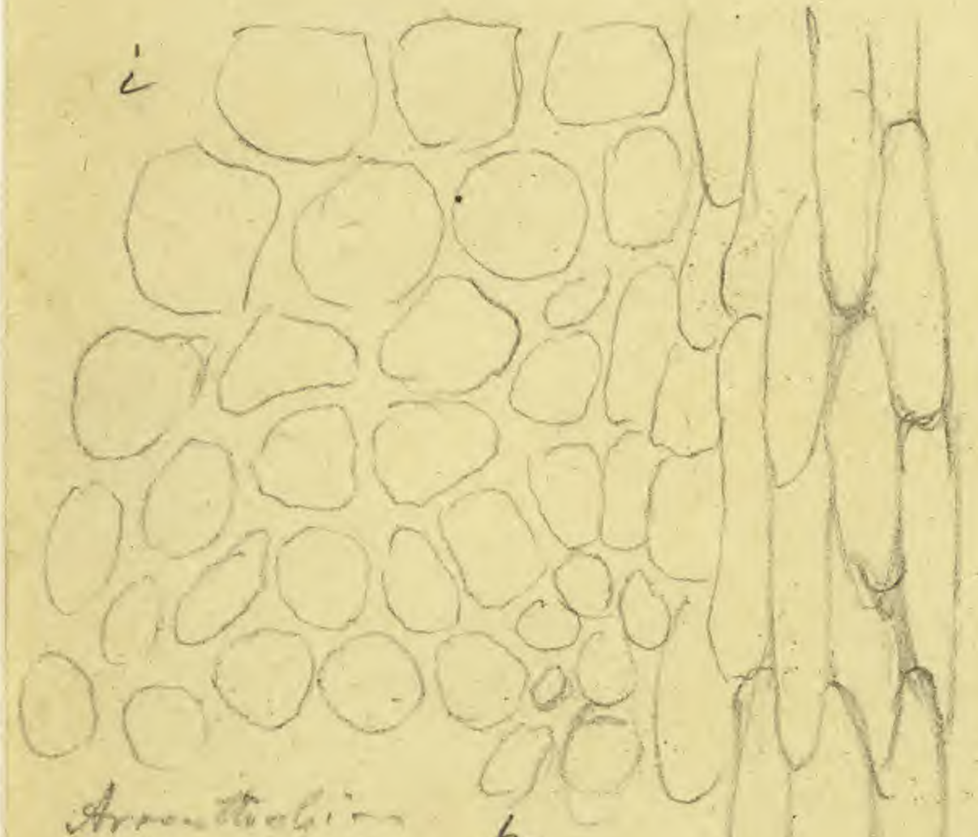
e bark tissue

Arrenthelium masses in bark

g

a. pith

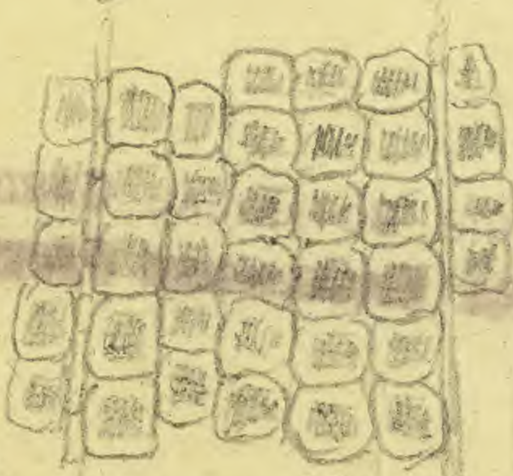
i



Arrenthelium
lower part
in bark

h

central Gonidia
l



b wood & medullary rays

cambium c.

bast cells d.

e

f. bast

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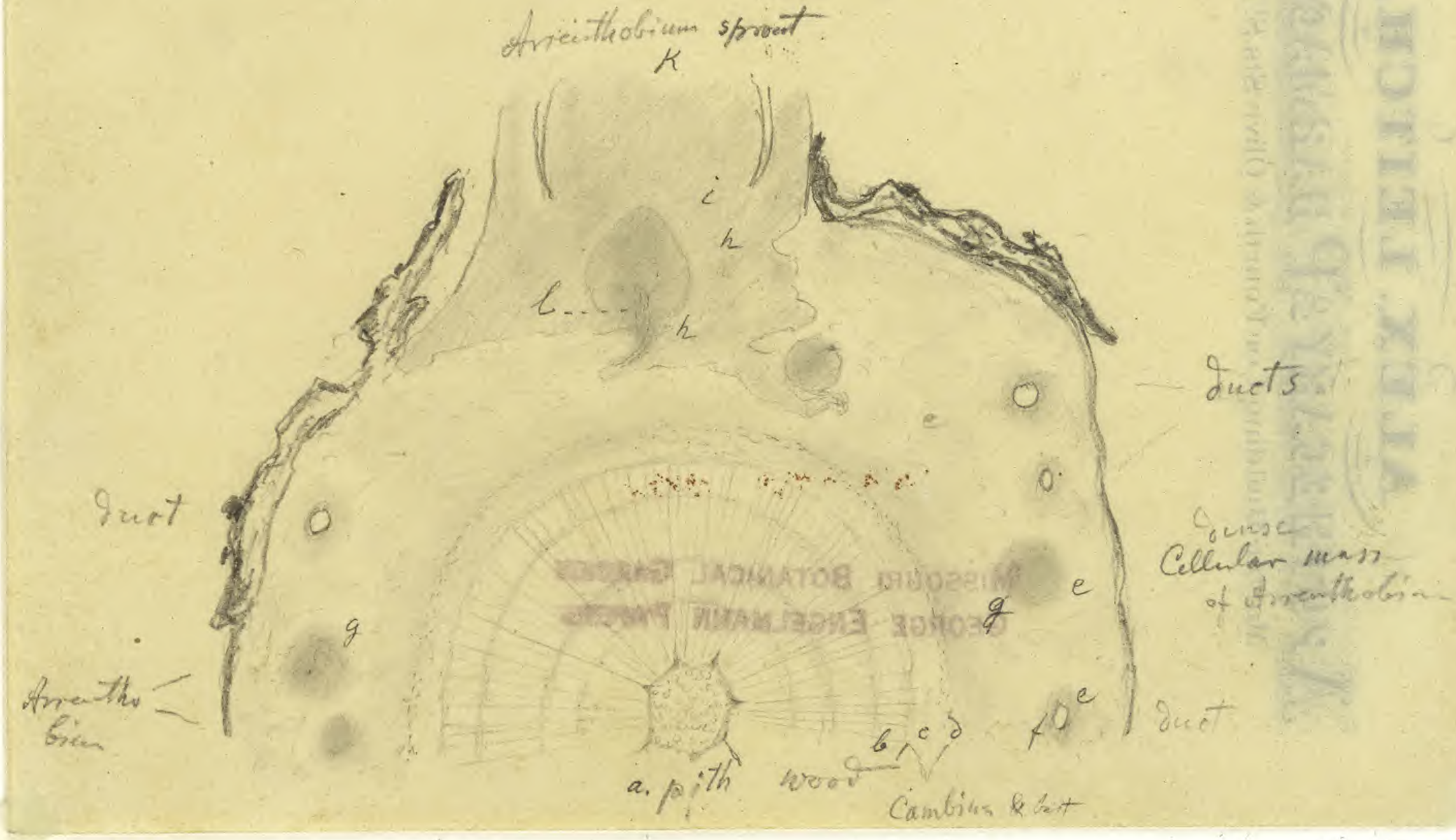
Arrenthobium pusillum

July 18 1872

shoot in 4th year, bearing female plants with young fruit

cross section ×30



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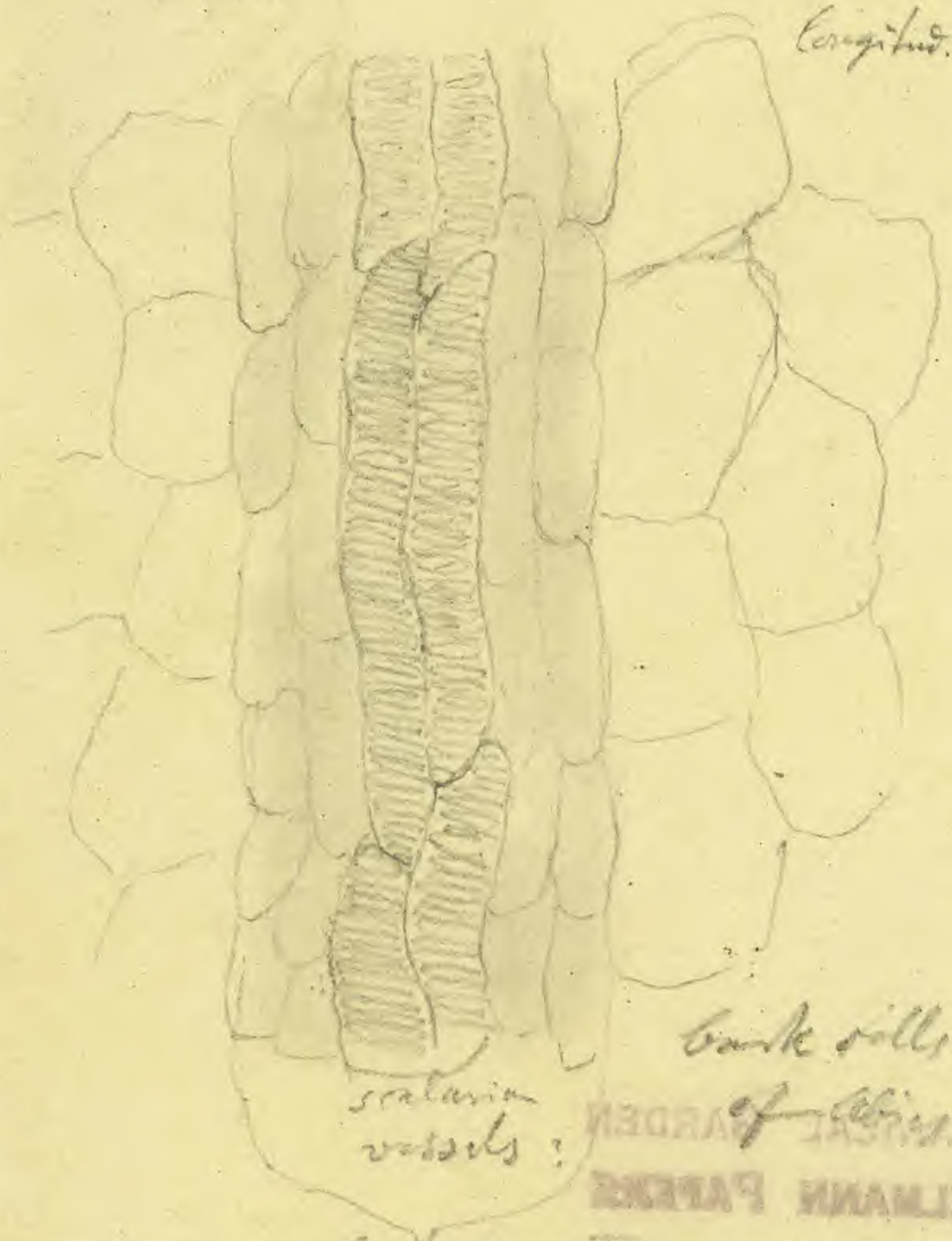
July 28 1872

× 285

A pusillum

Longitud. sections of Abies branch 2¼ years old



bark cells.

vascular bundle

oval or elongated cells of wood ?

Cells small, yellowish, dense.

× 285

Bark of Abies

Bast ?

another large bundle of much finer vascular vessels from same bundlet of Abies

GEORGE ENGELMANN PARKER
MISSOURI BOTANICAL GARDEN
ST. LOUIS, MO.
Missouri Botanical Garden

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BOTANICAL GARDEN
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July 1872

Arcuth. pusillum

Male plants have fallen off on the joints of 1869, female plants on joints of same age are forming fruit, stick is not yet recovered —

Many sports of Arcuth. are now lengthening on the joints of 1870, and will show flowerbuds this fall.

On the joints of 1871 I find within the bark already the Arcuth. fibres or stolons, easily recognized by their scalary vessels. They will form buds late this fall

stomata on leaves & Commissure also on upper most part of stem

7493

C. Schroeder,

PHARMACEUTIST,

No. 3005 Olive Street,

Near Garrison Avenue, **ST. LOUIS, MO.**

No. *Date,* *187*

℞

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A. uncinatum

terminal ♂ always supported by 2 pairs of bracts (2 joints)
with that calcar flower — rarely calcar ♀ base
of terminal ♂ ♀. often usually in a cymyloped.
vaginas obtuse

7494

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Arenthobium — on Juniperus Englm. name only
pusillum Dr Torrey in Bullet. Torrey Club 1871 p. 42
A. pusillum Peck in Trans Ct. Albany Institute
Vol 8 p. 191 1872 & 25 ann Rep't
of N.Y. Mus Nat Hist. 1873 p. 69

1871

Aug 8 Mrs Lucy A Millington of Glens Falls Warren Co
N.Y. discovers the plant on shrubby Abies nigra
in or at peat bogs in the Adirondacks — in Warren
County and Essex County in the same mountains
Aug 20 finds it again in with immature fruit
Sept 7 do do do on the slope of a high mountain
Sept. 14 Prof Ch.s H Peck of Albany N.Y. finds female plants
with mature seeds in a cold cranberry marsh
in the town of Sandlake, Rensselaer County N.Y.
(East of Albany 16 miles) 2000 feet high.
Octo 27 discovers male plants with flowerbuds; of females
Nov Torr. Bull p. 42 he saw only fragments of long seedlings
first publisht — mistakington. Nom Minuteman given.
Dec 2 Mrs Millington finds near Warrensburg in
the Adirondacks the same male plants — seedling
Nov p. 42 plants of last spring, and empty fruit & aggutinated seed;
no female plants
Dec. Bulletin Torrey Bot Club gives the first notice of it Gut no name
p. 47

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over

1872 April 30 Mrs Millington, same place not yet fully in bloom

May 14 Dr Parry in full bloom same place

June 12 Ch H Peck Sandlake Male flowers almost disappeared

July 6 Mrs Millington. males have all disappeared — females are growing fruit enlarging — buds are enlarging now 1/2 - 1 line long

Octob. Mrs Millington observes the shedding of the seed Tom Bull 3.55

1873. Sept 17 Ch H Peck finds the same on the Rock Spruce (very small trees in the town of Rockbury, Sullivan County NY.

1872 American Naturalist

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Abies nigra with Aecidium
Mrs McClintock
July 1872

No 1

2

3

c

a

d Conducts

tree with branches

3 infested a. b. c.

infested branch

a dead tree with 2 branches that had been infested

7496

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Arcuthobium pusillum — Aug 1872

Abies nigra sprout of	Appearance in May	July	Sept.	Decemb
Same year	———	not	a	c
of year before	no Trace		first budding Arcuthobium	hemispherical buds
of 2 years ago	hemispherical buds	begin to develope ½ - 1 Line	♂ & ♀ plants well grown with very young flowerbuds	well formed plants with complete flowerbuds
of 3 years ago	♂ & ♀ in flower	♂ have fallen ♀ form young fruit	♂ entirely ♀ & ♀ mature fruit	all fallen
of 4. 5 & 6 years ago	Rarely a female and ~~still~~ more rarely a male ~~plants~~ plant seen in same state as old twigs ..			

These plants have springing from the persistent stroma of the young plants. which generally seems to die after bearing fruit once, but in some instances survives and bears new shoots .

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74q7

Jan 1872

Arrenthobium minutum

(*A. monocarpicum*?)

~~not~~ male correct female

	male	female
1st year	Seed (planted in the fall or winter before germinates and grows 1/3 or 1/2 line high forming a hemispherical bud, with 1 pair (cotyledons?) or also a second unequal pair of leaves — thus at the end of the season	
2d. year (probable, as no intermediate state has been seen)	grows 3–12 lines high and forms in the latter part of summer terminal (and a few lateral) flower buds, which remain closed all winter	grows 3–12 lines high and forms in the latter part of summer flower buds (looking like flowers or even grow first) persistent through winter.
3 year.	flowers — probably in spring and then dries up and decays (this is problematical but no plants have been seen which indicate a second flowering)	flowers (probably in spring) and matures fruit in September and October, when upon the plant is broken up by winds or birds; fruit at last opens at the insertion of peduncle and the seed surrounded by the glutinous pulp is discharged

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8b4L

Octob 1871

Arcenthobium minutum on Pitea riga N.Y.
and on all collected

All the species (15–18) on this branch

are female, a female Colony!

Those on youngest branch (therefore

of the last spring's germination, 6 months old)

have flowers or rather young fruit ♀; those

on the older part of the branch (18 months

old ?) have fruit —

Fruit must need 20 - 22 months after

flowering to find young tender branchlets

to germinate on

But why no flowers (or young fruit) on

the younger parts of the two year old plants?

Can it be monocarpic?

Or do they produce flowers only every 2d

year, after shedding of seed? —

I have seen no branched plant.

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My dear Doctor,

Will you accept
the accompanying very
unpretending gift, convey-
ing rather the sentiment-
of warm affection and
grateful ness which prompts
me in sending the articles,
than their value.
Trusting that the fact of
their having been worn, a
few times, by me may
dear to me, may not ren-
der them unacceptable to
you - may the comfort
and Kindness which you

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Gratiola, flavida - Vir. to Ga. (except peninsula)

moved in azimuth, the other in altitude, and there be firmly clamped; with two lamps..... $790.00
No. 36.—Same, with telescope of **2½-inch clear aperture**..... 650.00
No. 37.—Same, with telescope of **2-inch clear aperture**..... 500.00
Reversing apparatus, extra..... 95.00

SMALL TRANSITS.

Small Transits, suitable for watch and clock makers to take the time. The stand is similar to the one shown on cut No. 35, cast in one piece. The Y's have no adjustment, and the telescope is without clamp or circle; a good striding level, prismatic eye-piece with sun-shade and glass micrometer is provided.

Transit, with telescope of 1½-inch aperture, 16 inches focus..... 165.00
The same, telescope of 1¼-inch aperture..... 140.00

DIPLEIDOSCOPES.

These small instruments are excellent for getting the correct time; they have a small telescope of 5 inches in length, and are provided with adjustments for latitude, and to bring it in the meridian, price..... 35.00

[This folder enclosed sheets 141-169].

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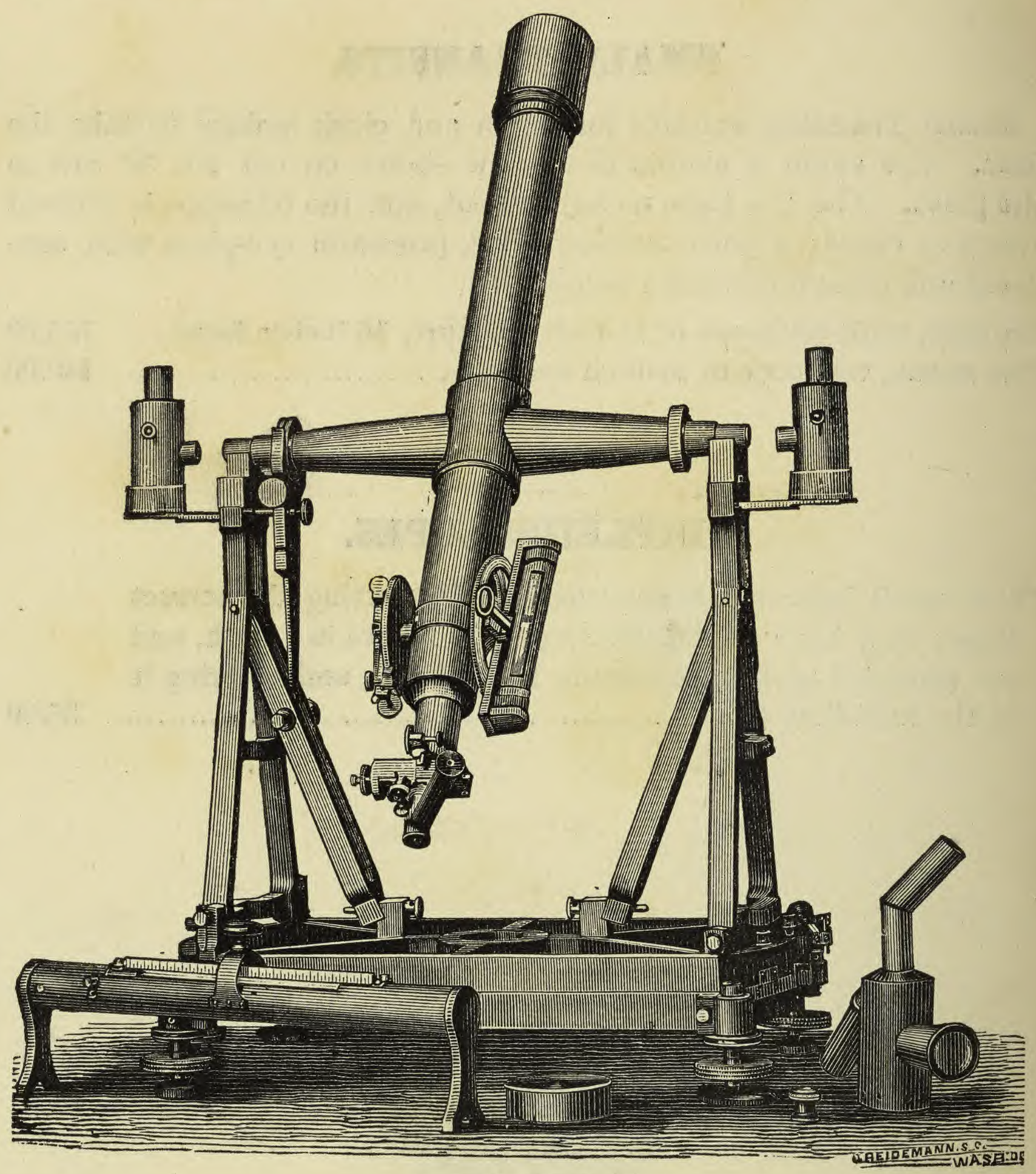
PORTABLE INSTRUMENTS.

All the following instruments are packed complete in boxes and provided with the following accessories: Shade, screw-drivers, adjusting-pins, plumb-bob, reading-glass, and dust-brush.



No. 38.

COMBINED TRANSIT AND ZENITH INSTRUMENT,

as devised by Prof. G. Davidson, U. S. C. S.

cm 0 1 2 3 4 5 6 7 8 9 10
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The telescope has an aperture of $1\frac{1}{4}$ inches, with astronomical or terrestrial eye-piece, and 7 and 10 inches focus respectively. It is very powerful, has a flat field, and defines sharp. Extra stadia lines, for measuring distances, besides the ordinary cross lines, are ruled on diaphragm. The compass-needle is 4 inches long; clamps and spring tangents to telescope axis and plates; striding level and level on telescope indicate five seconds of arc. A circular level is attached to vernier plate to level instrument up by. This instrument, completely packed, with all accessories and tripod $315.00

This style of Theodolite we make also with circles of 7 inches diameter and bevelled edge; graduation covered, reading to 5 seconds; telescope $1\frac{1}{2}$-inch aperture; these improvements increase the price 95.00

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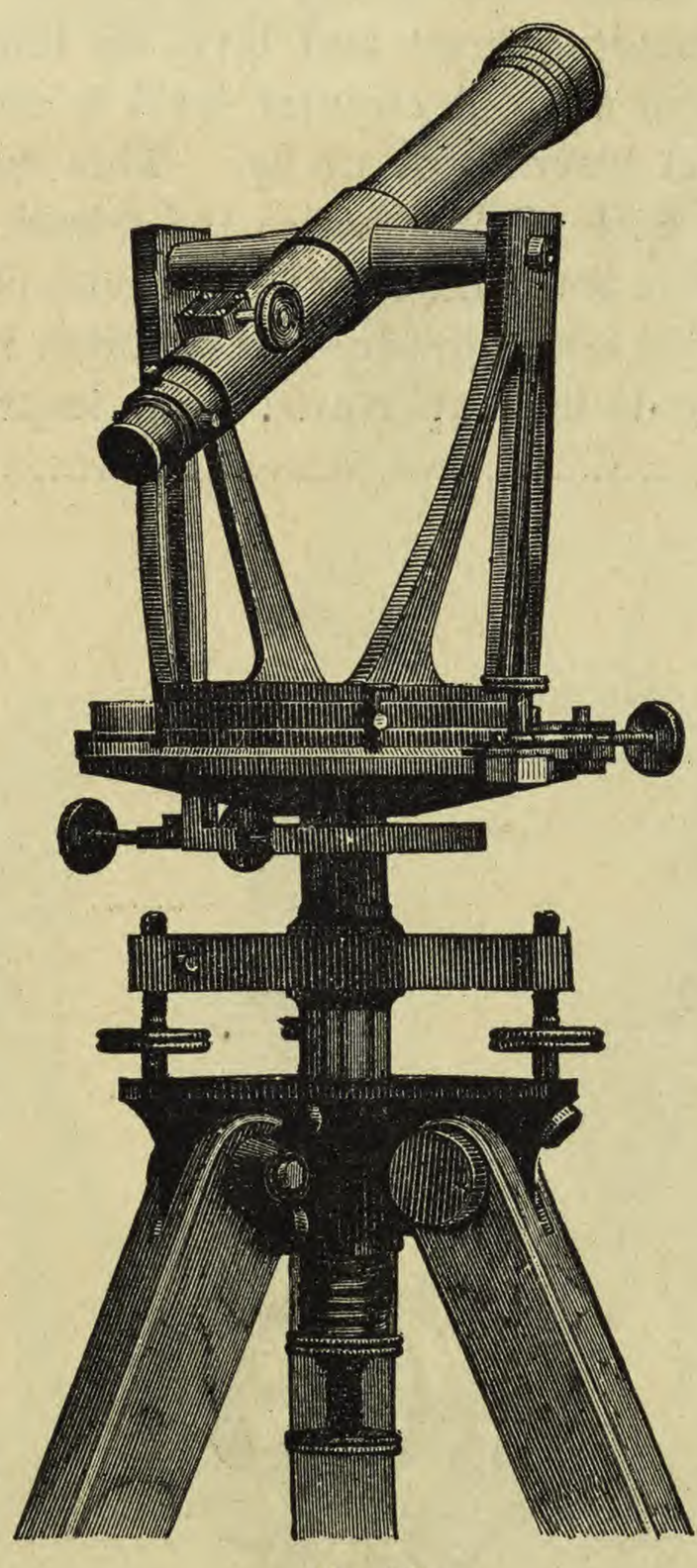
7500

PLAIN TRANSIT THEODOLITE.



No. 56.

No. 56.—The same as No. 55, but without the vertical circle, clamp attachment to axis, and level on telescope. Telescope either astronomical or terrestrial, of 1¼ aperture, and 7 and 10 inches focus respectively; graduation on silver, reading to 30 seconds, by two verniers; compass-needle 4 inches long; small circular level attached to vernier-plate to set instrument up level; extra stadia lines. Instrument packed in case with all accessories, with tripod $205.00

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